

# Klüberbio ALO 32-4000

Ultimately biodegradable lubricant for railway switches



## Benefits for your application

- Trouble-free operation due to low friction resistance over a wide temperature range
- Good UV resistance prevents rapid gumming of the applied lubricant after long exposure to sunlight
- Extended relubrication intervals due to good corrosion protection and resistance to washout by rain
- Low operating costs due to considerably lower lubricant consumption and less manpower for relubrication
- Eco-compatible due to its ultimate biodegradability

## Description

Klüberbio ALO 32-4000 is a synthetic, ultimately biodegradable special lubricant for railway switches.

As Klüberbio ALO 32-4000 offers good corrosion- and wear protection and is resistant to washout by rain, lubrication intervals can be extended.

The product is effectively protected against UV light, which prevents rapid gumming in sunlight and hence an increase of switch setting forces.

## Application

Klüberbio ALO 32-4000 was developed for the lubrication of railway switch slide plates where it might drip off and pose a hazard to the environment.

## Application notes

Klüberbio ALO 32-4000 is applied by brush or spatula. Application via portable spraying devices is also possible at temperatures down to 0 °C. For lower temperatures, check if the product can be sprayed in the individual case.

Relubrication intervals depend on ambient conditions, rain/snow and the frequency with which the switches are set.

## Material safety data sheets

Material safety data sheets can be requested via our website [www.klueber.com](http://www.klueber.com). You may also obtain them through your contact person at Klüber Lubrication.

Pack sizes	Klüberbio ALO 32-4000
Bucket 5 kg	+
Bucket 25 kg	+

Product data	Klüberbio ALO 32-4000
Article number	009019
Lower service temperature	-30 °C / -22 °F
Upper service temperature	80 °C / 176 °F
Colour space	beige
Texture	homogeneous
Texture	short-fibred
Density at 20 °C	approx. 0.97 g/cm <sup>3</sup>
Biodegradability in acc. with OECD 301 B, 28d	>= 80 %
Worked penetration, acc. to Klein, 25 °C, lower limit value	550 x 0.1 mm



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Product data	Klüberbio ALO 32-4000
Worked penetration, acc. to Klein, 25 °C, upper limit value	750 x 0.1 mm
Test of the anticorrosive properties of lubricants on steel in presence of water, KL PA-060, stirring method A, steel 4 h/80 °C ( based on the withdrawn standard DIN 51355)	0 corrosion degree
Minimum shelf life from the date of manufacture - in a dry, frost-free place and in the unopened original container, approx.	12 months

## Klüber Lubrication – your global specialist

Innovative tribological solutions are our passion. Through personal contact and consultation, we help our customers to be successful worldwide, in all industries and markets. With our ambitious technical concepts and experienced, competent staff we have been fulfilling increasingly demanding requirements by manufacturing efficient high-performance lubricants for more than 80 years.

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The data in this document is based on our general experience and knowledge at the time of publication and is intended to give information of possible applications to a reader with technical experience. It constitutes neither an assurance of product properties nor does it release the user from the obligation of performing preliminary field tests with the product selected for a specific application. All data are guide values which depend on the lubricant's composition, the intended use and the application method. The technical values of lubricants change depending on the mechanical, dynamical, chemical and thermal loads, time and pressure. These changes may affect the function of a component. We recommend contacting us to discuss your specific application. If possible we will be pleased to provide a sample for testing on request. Klüber products are continually improved. Therefore, Klüber Lubrication reserves the right to change all the technical data in this document at any time without notice.

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